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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/770,735	02/03/2004	Richard Blackmore	P-042	1000

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EXAMINER

FISCHER, JUSTIN R

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 01/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/770,735

Applicant(s)

BLACKMORE ET AL.

Examiner

Justin R. Fischer

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19, 21-26 and 28-37 is/are rejected.
- 7) ☒ Claim(s) 20 and 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>102204</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 27 is objected to because of the following informalities: claim is currently presented within the lines of claim 26. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 4-6, 11-18, 24, 25, 28-30, and 33-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claims 4 and 6, the language "the reaction product" appears in line- there is no antecedent basis for this language. It is suggested that applicant define the independent claim in a manner that describes the reaction product as resulting from the chemical reactant that is injected into the ground.

With respect to claim 5, the language "the heat source" appears in line- there is no antecedent basis for this language. In view of claim 1, it appears that the heatable bladder is in communication with a controller/power source, which itself is not in contact with the pipe wall.

Regarding claims 11-18, the language "the pressure" appears in step (e) of claim 11- there is no antecedent basis for this language in the claims.

Art Unit: 1733

As to claims 24 and 25, it is unclear how these limitations further define the claimed method. Additionally, the language "the foam" appears in claim 24- there is insufficient antecedent basis for this language in the claims.

With respect to claims 28-30, claim 28 as currently drafted includes a step (b) and a step (d)- it is unclear if step (c) was erroneously omitted.

As to claim 29, the language "the mold heating means" appears in line 1- there is insufficient antecedent basis for this language in the claims. In this instance, the apparatus of claim 28 does not include a mold heating means.

Regarding claim 30, the language "the electrically resistive conductors" appears in line 1- there is insufficient antecedent basis for this language in the claims.

Regarding claims 33, 35, and 36, the language "the at least one liner" appears in line 1- there is insufficient antecedent basis for this language in the claims. It appears that these claims should be dependent from claim 32.

With respect to claims 34 and 37, the language "the liner" appears in line 1- there is insufficient antecedent basis for this language in the claims. It appears that these claims should be dependent from claim 32.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1733

5. Claims 1-8, 11, 13-19, 21-26, 28, 29, and 31-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamiyama (JP 6-320624) and further in view of Tweedie (US 6,068,725) and Gunzel (DE 3929558). A machine translation of Kamiyama is provided.

Kamiyama discloses a pipe rehabilitation method comprising applying a liner 5 having a flange portion to a branch pipe 2 and injecting a chemical reactant or foam grout 3 into the ground (Paragraphs 10 and 11). In this instance, though, Kamiyama is completely silent with respect to the manner in which the liner 5 is provided in the branch pipe 2. In any event, it is extremely well known to include an inflatable bladder that expands the liner against the inner wall of the main pipe and is subsequently removed, as shown for example by Tweedie (Figure 1 and Column 2, Lines 45-50) and Gunzel (Abstract and Figure 3). In particular, Tweedie recognized the use of an inflatable bladder that is heated in order to press the liner against the wall (some amount of heat would radiate through the thickness of the pipe). Absent any conclusive showing of unexpected results, one of ordinary skill in the art at the time of the invention would have found it obvious to use a heatable bladder in the installation of the liner 5 in the method of Kamiyama as it represent a well known and extensively used technique to install pipe liners. It is additionally noted that the disclosure of electrical heating by Tweedie is recognized as including a controller and power source.

Regarding claim 2, it is well recognized that liners include an impregnating material or resin, as shown for example by Tweedie (Column 2, Lines 35-40). In such

Art Unit: 1733

an instance, the resin of the liner becomes cured due to the heat from the bladder and this product can be viewed as a reaction product.

With respect to claims 3, 21, and 29, the electrical heating described by Tweedie is seen to constitute resistive electric heating (heating wires).

With respect to claim 4, the method of Kamiyama includes the use of a foam grout (polyurethane based) and one of ordinary skill in the art at the time of the invention would have recognized such a foam to include closed cell foams as they are consistent with foam material used in the industry, there being no conclusive showing of unexpected results to establish a criticality for a closed cell foam.

Regarding claim 5, a portion of the heatable bladder in Tweedie is in circumferential contact with the inner wall of the pipe (both liner and bladder circumferentially contact the inner wall of the pipe). It is additionally noted that Figure 3 of Gunzel specifically depicts the bladder as being in contact with the inner wall of the pipe.

As to claim 6, the foam grout of Kamiyama functions in the same capacity as that of the reactant of the claimed invention.

Regarding claims 7, 32, and 33, the method of Kamiyama includes at least one liner 5.

With respect to claim 8, the foam grout of Kamiyama is a polyurethane.

Regarding claims 11, 13-18, 24, and 25, the method of Kamiyama, in regards to the inclusion of a chemical reactant at the seal between a main and branch pipe, is substantially equal to that of the claimed invention and as such, one of ordinary skill in

Art Unit: 1733

the art at the time of the invention would have expected the same benefits/characteristics to result.

As to claim 19, it is extremely well known to form the liner with thermosetting or thermoplastic resin, as shown for example by Tweedie (Column 4, Lines 15-35) and Gunzel (Abstract).

Regarding claim 22, the bladder of Tweedie is heated prior to the insertion of the chemical reactant into the ground- such a heating step would be expected to provide some degree of heating to the ground.

As to claim 23, the heatable bladder is designed to affect the cure of the resin in the liner.

Regarding claims 34-37, these limitations are consistent with the well-known and conventional constructions of pipe liners

6. Claims 9, 10, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamiyama, Tweedie, and Gunzel as applied in claims 3, 7, and 28 above and further in view of Strand (US 4,768,562). As noted above, Tweedie teaches a method in which the resin of the seal/liner can be cured via an electrical heating technique, wherein elements such as a heating wires can be included in the seal/liner or the bladder (Column 2, Lines 45-50). While the reference fails to specifically identify the use of carbon fibers as heating elements, Strand evidences the known use of carbon fibers in a similar method involving the installation of a pipe liner (Columns 2 and 3). In such an instance, an electrical current is conducted through a liner layer formed with carbon fibers (electrical resistance heating). Thus, it is evident that carbon fibers are

Art Unit: 1733


recognized as being suitable conductive elements in a pipe lining process- absent any conclusive showing of unexpected results, one of ordinary skill in the art at the time of the invention would have found it obvious to use carbon fibers as the heating element in the method of Kamiyama in view of Tweedie. It is further emphasized that Tweedie recognizes the ability to include such elements in either the seal/liner or the bladder.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R. Fischer** whose telephone number is **(571) 272-1215**. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Justin Fischer
December 30, 2005